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THESIS

LESSONS LEARNED IN COMMUNICATIONS SERVICES CONTRACTING

by

Lillian Elaine Fishburne

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Thesis Advisor: D. C. Boger

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Lessons Learned in Communications Services Contracting

by

Lillian Elaine Fishburne
Lieutenant Commander, United States Navy
B.A., Lincoln University, 1971

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ABSTRACT

The United States Navy is currently utilizing communications services contracting at Naval Radio Transmitter Facilities and Naval Radio Receiver Facilities to alleviate problems of manpower and budgetary constraints. This thesis examines the problems that hindered communications services contracting and the administration of these contracts and the lessons learned thus far in relying upon the private sector for communications services at these facilities. The major problems appear to be a general misunderstanding of contracting for services, as opposed to materials, and, specific to these communications service contracts, poorly written statements of work and inadequate quality assurance plans.

TABLE OF CONTENTS

I. INTRODUCTION

The United States Navy has faced continually growing demands upon its manpower resources in communications. In 1973, the Navy discovered that it had an inadequate number of personnel in the Radioman (RM) and Electronic Technician (ET) ratings to continue effective operation of its shore communications facilities and performance of shipboard functions. In an effort to perform its required communications functions, the Navy turned to the private sector for operation of Naval Radio Transmitter Facility, Isabella, Puerto Rico in October 1973. After the Navy experienced a severe shortage of personnel in the RM and ET ratings in 1979, the operations of six naval radio transmitter facilities and two naval radio receiver facilities were converted from in-house (civil service and naval personnel) to private sector contract operation.

In addition to the shortage of personnel, another contributing factor for commercial contractor-provided communications services was the Department of Defense (DOD) active implementation and support of the Office of Management and Budget Circular A-76 (OMB A-76). The Circular established the policy that the Federal Government should rely on the public sector to the maximum extend possible for Government needed goods and services. However, OMB-76 does recognize

the fact that the Government has certain functions which must remain in-house; therefore, it exempts these functions. In addition, OMB-76 emphasizes that the relative cost should be considered between Government and commercial contractor performance of functions.

The Department of Defense implemented OMB A-76 policy through the Commercial Activities (CA) program and other directives. A commercial activity is defined as an activity operated and managed by a DOD agency which provides a service or product obtainable from a commercial enterprise. In addition, the activity may be identified as an organization or type of work; but, the activity must be separable from other functions and must provide a regularly needed activity of an operational nature. [Ref. 1:20]

In compliance with Navy implementation of the Commercial Activities program, Commander, Naval Telecommunications Command (COMNAVTELCOM) conducts a required annual inventory of communications functions. In a facts sheet which is submitted to the Chief of Naval Operations (CNO), COMNAVTELCOM recommends communications functions which are possible candidates for the Commercial Activities program. After CNO approval of the recommendations, COMNAVTELCOM conducts the requied OMB A-76 cost comparison study between in-house and private sector contract performance of the functions. During the cost comparison process, a detailed statement of the desired services is developed. This document, the Statement of Work,

is used by the Contracting Officer to solicit bids or proposals from prospective contractors and the Government. The government proposals are used as the basis for preparation of Government in-house cost estimate to perform the same service. Prospective contractors and the Government submit sealed bids for their costs in performing the required service. In essence, OMB A-76 makes the Government just another bidder in the process. Then, the cost to the Government for private sector performance of the service will be compared with the in-house Government estimate. Once the cost comparison determines that private source contract-provided services is less expensive, the performance of the function is converted from in-house to private sector. Cost comparison studies of the eight communications facilities eventually contracted in 1979 indicated that operation of the facilities by the private sector over a three year period would save the Federal Government $17.8 million and private sector operation of the facilities could be performed with two-thirds of the manning level required for in-house performance. [Ref. 2]

As DOD continues active implementation and support of the Commercial Activities program while budgetary and manpower constraints exist, the Navy will increasingly turn to the private sector to satisfy its required communications functions, particularly in the operations and maintenance of naval radio transmitter and receiver facilities. Consequently, the Navy must address the problems thus far encountered in

the acquisition of private sector-provided communications services and in the administration of the subsequent contracts.

A. SCOPE AND ASSUMPTIONS

The scope of this thesis is limited to the identification and exploration of the problems experienced by COMNAVTELCOM and its field activities in the administration of communications services contracts. As the authorized Government contracting agent for communications services contracts, Navy Regional Contracting Center (NRCC) Washington, D.C. is the authority for the acquisition and administration of these contracts. However, COMNAVTELCOM and field activities have experienced problems in performance of assigned contract administration functions. Therefore this thesis will focus on their foles in the administration of communication services contracts.

Additionally, the thesis will explore those areas in the acquisition phase that generate problems in the contract administration phase. The primary objective of this endeavor is to provide guidelines for COMNAVTELCOM and its field activities for dealing with the problems encountered in the administration of these contracts. A secondary goal of the thesis is to assist in understanding the scope of the problems thus far encountered in communications services contracts.

It is assumed that the reader has a casual understanding of naval communications.

B. METHODOLOGY

The data for the thesis was obtained from two primary sources. First, discussions were held with personnel in the contracting office at Commander, Naval Telecommunications Command, Washington, D.C. These discussions provided insight into the history of communications services contracts and into the problems encountered and lessons learned thus far in the administration of the contracts. Discussions were held with personnel in the plans, supply and operations departments at various field activities with contracted-out facilities. In particular, discussions with personnel at Naval Communications Area Master Station, Eastern Pacific (NAVCAMS EASTPAC), Honolulu, Hawaii provided insight into the impact of unsatisfactory contractor performance.

A second method for obtaining data consisted of a review of literature pertaining to all aspects of service contracting. Information was obtained from the Dudley Knox Library at the Naval Postgraduate School and the Defense Logistics Studies Information Exchange Center, Fort Lee, Virginia. COMNAVTELCOM and NAVCAMS EASTPAC provided directives, contract documents, and other materials pertaining to the contracting of communications services.

This thesis is divided into five chapters. In this chapter, a brief overview of COMNAVTELCOM contracting of radio transmitter and receiver facilities has been presented

with emphasis on the ramifications of OMB A-76 and the Commercial Activities program. Additionally, the scope of the research effort has been identified and the methodologies for gathering data have been presented.

Chapter II provides the reader with a basic understanding of the contract types, contracting methodology, contract composition, and contract administration. The problems encountered in the administration of communications services contracts are explored in Chapter III. Various methods to alleviate the problem are proposed in Chapter IV. Conclusions and recommendations are included in Chapter V.

II. BACKGROUND

Faced with shrinking manpower resources, budgetary constraints, and increasing DOD emphasis on the Commercial Activities program, it appears that the Navy is committed to the concept of using commercial sources to perform the required operational functions at its radio transmitter and receiver facilities. Consequently, the Navy must address problem areas generated by contracting-out these facilities. This section will provide the reader with a basic understanding of the method of acquisition of communications services contracts and the types of contracts awarded. In addition, an overview of DOD contract administration will be presented.

A. CONTRACT TYPE

The type of contract awarded for communications services is the firm fixed-price contract. In this type of contract, the Government agrees to pay a specified price for services or goods when they are delivered by the contractor or accepted by the Government. The price is not subject to adjustment because of the contractor's cost experience (good or bad) encountered during contract performance. The Government prefers this contract type because all of the financial risk falls on the contractor. Government policy is to use

this type of contract whenever a reasonable basis for firm pricing exists. It is generally associated with the purchase of standard, semi-standard, and modified commercial products or services.

Communications services contracts are generally in effect for three years. In reality, the contracts are awarded for one year with the Government retaining annual prepriced renewal options for the remaining two years of the contract. At the expiration of the three year period, a new contract is advertised, in other words, the Government permits private sector concerns to compete among themselves for award of a subsequent contract. The advantages of using the renewal options include continuity of performance, reduced turbulence and disruption.

Generally, the Navy contracts for the operation of two or more facilities in one contract. For example, the operations at NRTF Driver, Virginia and NRTF Saddle Bunch Key, Florida were included in one contract. These contracts are referred to as multi-site contracts. In addition to reduction in solicitation preparation and contract administration associated costs, multi-site contracts enhance communications and assist in contract administration because of centralization of management in a single source. [Ref. 3:67]

B. COMMUNICATIONS SERVICES CONTRACTING METHODOLOGY

Communications services contracts are acquired using the Two-Step Formal Advertising method. During the first step, the Government solicits unpriced technical proposals from private concerns by advertising the need for these services, including publication in the Commerce Business Daily. Navy Regional Contracting Center (NRCC), Washington distributes a Requeste for Technical Proposals (RTP) to all interested contractors. The RTP consists of a detailed performance description of the required services; Statement of Work (SOW); a evaluation criteria for the technical proposals; minimum requirements for technical proposals; data, such as maps, drawings, etc.; and other provisions, such as the deadline for submission of proposals.

The Statement of Work, the heart of a contract, tells the interested contractors exactly what the Government needs so that they may prepare their technical proposals and bids accordingly. Besides constituting the major portion of the solicitation package, it allows the Government to enforce the contract after award.

Prior to the submission of the technical proposals, preproposal conferences are held on the site selected for contracting-out. COMNAVTELCOM experience indicates that the interested contractors will send their marketing representatives and/or technical representatives. During

the preproposal conference, the contractor is given a first-hand view of the site and discussions are held between the Government and the prospective contractors concerning the provisions contained in the RTP.

The various technical proposals submitted in response to the solicitation are evaluated at COMNAVTELCOM Headquarters by an evaluation board consisting of a representative from the parent command of the facility proposed for the contract, a representative from the COMNAVTELCOM facilities office, a representative from the COMNAVTELCOM contracting office, and a technical representative from the COMNAVTELCOM systems implementation shop. The technical proposals are evaluated according to the criteria set forth in the RTP. The general areas of evaluation are staffing plans, experience and qualifications of personnel, formal training plans, procedures and methods for operations and maintenance of facilities, and contractor experience.

Graded on the basis of their acceptability as approaches to the problem at hand, the submitted technical proposals are classified into two categories:

1. Acceptable: The technical proposal completely conforms with the RTP.

2. Unacceptable: The technical proposal is unacceptable as submitted but can be made acceptable by clarification, amplification, or modification by either the Government or the contractor. The technical proposal may be revised and resubmitted by the contractor. When a technical proposal is unacceptable as submitted and is considered not likely to become acceptable, the contractor is dropped from competition.

Evaluation of the technical proposals concludes the first step.

Step two commences with the NRCC's issuance of an Invitation For Bid (IFB) to those contractors whose technical proposals have been determined acceptable. The contractors are requested to submit sealed bids based on their technical proposals. The IFB clearly states that services to be provided will be performed in accordance with the Government SOW provided in step one and the contractor's technical proposal as finally accepted. This step terminates with the public opening of the submitted bids and award of the contract to the firm whose proposal has been determined to be the best buy for the Government. Generally, the contract is awarded to the firm whose submitted prices are the lowest.

C. CONTRACT COMPOSITION

The awarded contract consists of three basic components which specify the terms and conditions of the contract. These components are the schedule, general provision clauses, and special provision clauses. First, the schedule states the agreed-upon prices, services description and specifications, the Statement of Work, and the contractor's technical proposal as accepted by the Government. Comprising the major portion of the contract, the Statement of Work specifies the services and the location where the services are to be performed. The contractor's technical proposal details how

the contractor will perform the services, such as number of personnel, skill level of personnel, and training program for personnel. COMNAVTELCOM contracting personnel indicate that the communications services contracts range from $300,000 to $2 million annually.

General provision clauses are standard mandatory and optional terms and conditions required by the Defense Acquisition Regulation (DAR). These clauses are necessary because Government contracts involve public money and are based on federal statutes and policies. Typical clauses included in communications services contracts are: Inspection of Services (DAR Clause No. 7-1902.4); Default Clause (DAR Caluse No. 7-103.110); and Termination for Convenience of the Government Clause (DAR No. 7-1903.19).

The Inspection of Services Clause states that the Government may test and inspect supplies at any time prior to acceptance by the Government. The Government has the right either to reject nonconforming supplies or to require contractors to correct them. If the contractor fails to remove or correct defective items, the Government can, by contract, correct or replace the nonconforming items and charge any costs encountered against the contractor or may terminate the contract under the "Default" clause. If the contractor does not correct or replace the items within the contract delivery period, the Government may require delivery at a reduced price.

The clause also states that acceptance of supplies by the Government is conclusive except for latent defects, fraud or such gross mistakes amounting to fraud. Finally, the contractor is required to provide and maintain an inspection acceptable to the Government.

Default clauses give the Government the unilateral right to terminate the contract for default or breach of contract if the contractor fails to perform any provisions of the contract. Additionally, the clause gives the Government the right to buy the same or similar services from another contractor. Should the Government have to pay a higher price elsewhere, the defaulted contractor must pay the difference caused by the higher price. [Ref. 4] Under the terms of this clause, the contractor may be held liable for other damages incurred by the Government which are caused by the contractor's failure to perform. However, the clause prohibits the Government from terminating for default in the case of excusable delays caused by acts of God (fire, flood, etc.) and delays not caused by fault or negligence of the contractor. In cases of default terminations, the contractor may appeal the Government's actions to the Board of Contract Appeals.

The termination for convenience of the Government clause gives the Government the unilateral right to refuse to continue with contract performance, to stop work, and to settle with the contractor at the point of termination as

set forth in the contract. According to the provisions of the clause, the contractor must be given written notice of termination by the Government. The government must pay for all services rendered by the contractor prior to receipt of written notice of termination for convenience. In addition, the Government must negotiate a settlement with the contractor for costs caused by the Government termination for convenience action. In cases when a contractor has been terminated for default, the termination may be converted to termination for convenience if the contractor later proves that for example, the delay was excuseable in terms of the default clause or that he was not at fault or negligent. As in the case of default termination, the contractor may appeal the Government's termination action to the Board of Contract Appeals.

Special provisions clauses are detailed terms and conditions written especially for the individual contract by the Government. A significant special provision clause included in communications services contracts is the Reduction in Contract Price for Non-Availability of Operational Assets Clause. This clause specifies the terms and conditions under which the government may reduce the contract price if the contractor fails to maintain minimum levels of operational availability of operations assets. The clauses specify the minimum levels of operational availability and the rate and

amount of reduction in the contract price for failure to maintain minimum levels for individual facilities included in the multi-site contract.

Upon award of the service contract the contract administration phase commences.

D. CONTRACT ADMINISTRATION

Contract administration encompasses all activity between the Government and the contractor from award to completion or termination of the contract. The primary objective of DOD contract administration is to insure the timely delivery of goods and services as set forth in the contract. By requiring contractors to perform as they have promised, DOD seeks to protect the public interest. A secondary objective is making certain that the Government obtains precisely what is contracted for and pays for what is actually received. In many contractual actions it is in the best interest of the Government to require less than full contractor performance such as termination for default or termination for the convenience of the Government; and these actions require the Government to obtain consideration, usually in the form of a reduction in price, for taking less than its entitled performance. Most of the time spent in contract administration is making certain that the Government obtains what it pays for and pays for what it receives. [Ref. 5:6]

The Defense Acquisition Regulation (DAR) paragraph 1-406 outlines the functions for administering contracts. Contract

administration involves activities such as technical direction and supervision, product surveillance, inspection and acceptance, changes, and terminations. Because contract administration functions must be geographically decentralized in order to be carried out effectively and many of the functions require specialized expertise, DOD does not assign performance of the functions to any one organization or position. For example, performance of some contract administration functions are carried out by auditors, and some are performed by quality assurance experts.

1. DOD Contract Administration Organization

In the performance of the contract administration functions, DOD tends to make maximum use of the contract administrative offices established by the Military Departments under the Plant Cognizance Program and by the Defense Contract Administration Services (DCAS). With the exception of contracts retained by the purchasing office, all contracts requiring any field administration duties must be assigned to the DCAS component located nearest to the contractor's corporate headquarters. The field administration functions specified in DAR 1-406 are performed by an Administrative Contracting Officer (ACO) at the DCAS activity. The purchasing office may retain responsibility for contract administration services are not required and special categories of supplies or services are involved. The Procurement Contracting Office (PCO) may obtain supporting contract administration functions

by assigning responsibility of the support functions to the ACO. If assistance is required in the performance of a major portion of field contract administration functions, then the PCO must reassign the contract to the cognizant DCAS agency. After consultation with the applicable DCAS component, the PCO may retain specific contract administration functions on individual contracts when the performance of these functions can be best accomplished by the purchasing office.

2. Communications Services Contract Administration

According to the DAR, the purchasing office may retain contract administration of communications services contracts. Navy Regional Contracting Center, Washington, D.C. is ultimately responsible for communications services contracts from inception to completion or termination. The NRCC has designated three individuals to assist in the administration of these contracts: the ACO performs administrative functions; COMNAVTELCOM performs overall technical direction; and Commanding Officers of activities served by these contracts are designated the Contracting Officer's Technical Representative (COTR). The primary function of the COTR is to act as a technical liaison between the contractor and the Contracting Officer. COTR duties involve [Ref. 6]:

1. Ensuring that contracted service remains non-personal in nature.

2. Ensuring that the contractor does not exceed the defined statement of work.

3. Monitoring contractor performance and reporting all contract-related problems to the contracting officer.

4. Performing on-site monitoring and status reporting of contractor performance.

5. Monitoring use of Government furnished material and equipment.

6. Performing inspection and certification of acceptance or rejection of work performed by the contractor.

Chapter II has presented background information on the acquisition of communications services, contracting methodology, and contract administration.

III. PROBLEM AREAS IN COMMUNICATIONS SERVICES CONTRACTING

As noted in Chapter I, private sector provision of services at communication sites was to be performed with two-thirds of the manning level required for in-house performance and at a savings of $17.8 million to the Government over a three year period. However, the estimated savings in money and manpower resources has not materialized. For example, a portion of the impact experienced by the Navy in a default termination of a contractor for unsatisfactory performance has been the reassignment of twenty-five Naval Reservists and TAD electronics technicians from other activities and the expenditure of approximately $454,500 monthly in order to continue operation of the communications site until another private concern assumes operation. [Ref. 7] Due to less than desireable contractor performance, the Navy estimates the expenditure of $200,000 for facilities corrective maintenance at another site which was contracted-out. [Ref. 8]

Unsatisfactory contractor performance may be attributed to many factors. Some are due to the nature of services contracting and other are because of deficient statements of requirements and inadequate surveillance of contractor performance. In the first section of this chapter, the researcher will focus on some of the difficulties encountered

in DOD's procurement of services, as opposed to material contracting, which contributes to less than desireable contractor performance. The second half of the chapter is dedicated to specific problem encountered in communications services contracting.

A. DOD SERVICES CONTRACTING

In relying on the private sector for provision of services, the Department of Defense generally views the contracting process far more complex and difficult than contracting for materials. The difficulty and complexity of DOD services type contracting are attributed to inherent problems in the statement and measurement of service performance, additional mandatory requirements uniquely applicable to service contracts, and inadequate guidance on the services contracting process. These factors are addressed in more detail below.

1. Statement of Requirements

The Defense Acquisition Regulation (DAR) Section XXII defines a service contract as: "one that calls directly for a contractor's time and effort rather than a concrete product". Difficulties arise in precisely stating the required contractor's "time and effort" and in associating performance standards that can be monitored for contract performance. Vague statements of work requirements and performance standards result in contractor misinterpretation

and unsatisfactory performance. Misinterpretation of requirements have increased unsatisfactory performance, disputes, protests, and claims. [Ref. 9:6]

2. Mandatory Requirements

Additional mandatory requirements imposed by law and directives complicate service type contracting. For example, OMB Circular A-76, applicable to both service and supply contracting, requires the services proposed for contracting must be nonpersonal in nature. In other words, the Government may not instruct, supervise, or control the contractor's work force in how to perform the work at any time during the course of contract performance.

Personal services contracts, similar to an employee-employer relationship, are illegal because they may circumvent Congressional limitations on personnel ceiling points. In the written document, the Government statement of work requirements must tell a contractor what functions it wants performed but may not tell the contractor how to perform them.

Even where the contract work describes the services initially as nonpersonal, the subsequent actions of the contractor and the Government may change the contract to one of a personal nature. During the contract performance, the Government's telling the contractor how to do the job may cross the line into the area of personal services. It has been determined that such a contract is just as illegal as one awarded at the outset as a personal services contract.

Another requirements of OMB A-76 states that the Government may not revert to the long term utilization of in-house personnel instead of private sector personnel until a period of five years have elapsed from the initial contracting-out.

3. Inadequate Guidance

The Department of Defense uses the Defense Acquisition Regulation for assistance in the procurement of goods and services. Specific guidance on services contracting is difficult to locate in the DAR. This difficulty is noted in previous research efforts. [Ref. 10:103] One study indicates that approximately one percent of the regulation is dedicated to service contracts. [Ref. 11:104] This one percent coverage of service contracting is spread throughout the document in a piece-meal fashion. [Ref. 12:104]

B. SPECIFIC PROBLEM AREAS

As the functional area chief of communications services, COMNAVTELCOM has the responsbility to state the service to be delivered, measure the quality of the service, and accept the service. COMNAVTELCOM's statements of requirements are drafted at headquarters in the contracting office and sent to the field activities for review prior to solicitation. Measurement and acceptance of services are performed by the contracting activity with COMNAVTELCOM providing general guidance and assistance. Research indicates that problems

encountered in contracting of communications services may be divided into two major categories: those directly related to the Statement of Work; and those related to evaluating the contractor's performance.

1. Statement of Work

The statement of work, technical requirement, work scope or specification are all terms used to state Government requirements. The Statement of Work is a document that clearly describes the specific requirements for services and the standards associated with the service. Performance oriented specifications such as those used in communications services contracts express the requirement in terms of capacity, function, or operation. In the acquisition phase it tells the interested contractors exactly what the Government needs so that they may prepare their technical proposals and bids accordingly. Once a contract is awarded, the Statement of Work allows the Government to enforce contractor performance.

The importance of an accurate performance oriented Statement of Work cannot be overemphasized. From the statement of what is required, the other elements of procurement proceed: the quality requirement is determined; contract terms and conditions are selected; the work performed, and the work performance evaluated.

The Statement of Work should clearly indicate what is to be done without describing how to do it, and should provide methods of evaluating performance. It should describe all

duties, tasks, responsibilities, and requirements for furnishing facilities and materials. If necessary, as in communications services contracts, Government furnished facilities, materials, and equipment should be clearly identified.

Procurement via formal advertising such as utilized in communications services demands clarity and accuracy in the Statement of Work because the rules of formal advertising do not permit negotiation or discussion with the bidders to clarify or firm up inadequate aspects of the IFB prior to award. If a deficiency is noted, then the IFB must be amended or cancelled with a resulting loss of time and needless expense and inconveience to both the contractors and the Government. [Ref. 13:22] One communications service solicitation was amended to include a special provision clause on reduction in price for nonavailability of operational assets and quality levels of maintenance performance.

Vague specifications and poorly defined evaluation criteria have caused contractors to incorrectly preceive requirements and not perform to the satisfaction of the contracting activity. These factors have increased unsatisfactory contractor performance, disputes, protests, and claims due to misinterpretation of requirements. [Ref. 14:24]

Also, the Statement of Work must be accurate and completely state all requirements the contractor needs to undertake to complete the job. This has been an area of

particular concern in communications services contracts. A review of early communications services contracts revealed that critical facilities job requirements, such as antenna preventative maintenance, were not included in the Statements of Work due to emphasis on equipment operations and maintenance. Early Statements of Work were ninety percent dedicated to equipment operations and maintenance. [Ref. 15] Contracts awarded recently show an approximate fifty-fifty split between emphasis on equipment and facilities requirements. Also, the study indicated that the contracts did not include requirements for contractors to provide plans for the additional training of personnel in equipment maintenance that may be required during the course of contract performance. This requirement is included in contracts recently awarded.

One fundamentally important point is to know what requirements have been specified in the Statement of Work and that these requirements fully reflect the needs of the Government. Several communications stations assumed facilities preventative maintenance was included in the Statement of Work and subsequently did not budget for these repairs. The field activities had to seek additional funding from COMNAVTELCOM's comptroller in order to fund the repairs. [Ref. 16]

Thus far, the approach to addressing problems directly related to the Statement of Work has been management by exception. Each problem is viewed as a separate entity rather than as a part of the system. No systems approach has been utilized to analyze the process used in assessing, identifying, and stating requirements.

Developing and writing a clear, complete description cannot be overemphasized because successful performance of a contract is determined not at the time of award but at the time the performance specifications are written. [Ref. 17:22]

2. Evaluating Contractor Performance

If the first line of defense against unsatisfactory contract performance is clear and explicit requirements, then the second line is the establishment of a capability to assure that contractors conform to their contractual obligations. [Ref. 18] Government policy is that a contractor is specifically responsible for providing and controlling the output of services so that it meets the standards that have been specified in the contract. The contractor must put into place quality control mechanisms to guarantee that quality control is performed. On the other hand, certain responsibilities are incumbent upon the Government. As a function of Government contract administration, the contracting activity must evaluate contractor performance.

Discussions with field activities and headquarters personnel indicate that very little monitoring of contractor

performance occurred during the execution of the 1979 contracts. In several cases, monitoring of contractor performance consisted of telephone calls to the sites, especially if the sites were remotely located. When questioned by COMNAVTELCOM as to the number of contractor personnel onboard for the turnover period from in-house to contractor performance, one activity was unaware that the contractor personnel had been onboard for several days. [Ref. 19] Research revealed that at the site requiring $200,000 in facilities repairs, the $250 minor maintenance fund allocated to the contractor was unused during the contract performance. These are just a few illustrations of many incidents which were related to this researcher. Field activity personnel indicated that they attributed inadequate monitoring of contractor performance to a lack of knowledge of their responsibilities in the administration of these contracts and an inadequate number of personnel, especially in equipment operations and maintenance, to perform the monitoring function.

As a pancea to its problems in the administration of communications services contracts, COMNAVTELCOM issued guidance pertaining to monitoring of contractor performance to field activities. The directive, NAVTELCOMINST 4330.2 dated 24 July 1980, attempts to standardize field activities' monitorship in problem areas previously encountered. For example, the document directs that field activities report

to COMNAVTLECOM the specific number of contractor employees on board and their arrival dates during the orientation period.

Another approach to correct deficiences in assuring contractor performance was the establishment of the Contract Technical Administrator (CTA) position. In addition to assisting with the technical administration, monitoring of contractor performance, and quality assurance, the position was created to provide in-house expertise in equipment operations and maintenance which was lost when sites are converted to private sector operation. Each station with contracted-out communications sites is assigned one CTA billet. Thus far, five positions have been filled; however, stations without incumbent CTA's are encouraged to designate an individual (military or civil service) to perform the monitoring function. The CTA billet description requires equipment operations and maintenance experience as a pre-requisite for employment. Contract administration and facilities maintenance experience are highly desireable but not mandatory because of the availability of formal training courses on contract administration and the availability of facilities expertise in the stations' public works departments for assistance and cross training. [Ref. 20] The position has not been in existence long enough to evaluate the effectiveness of this approach.

In addition, COMNAVTELCOM is currently establishing a Quality Assurance Representative (QAR) position which will function as the on-site monitor for the CTA. It is proposed to assign the QAR's to stations with fifty or more transmitters.

In order to evaluate contractor performance a formalized quality assurance plan should be complementary to the contractor's quality control responsibilities. Currently NAVTELCOMINST 4330.4 is the document which comes closest to a quality assurance plan.

This chapter has presented some of the problems encountered in private sector-provided communications services and some steps taken to alleviate them. In the next chapter the researcher will present an approach to solutions of the two problem areas identified in this chapter.

IV. AN APPROACH TO PROBLEM AREAS

The two key concepts which appear throughout this thesis are that clear, explicit statements of requirments and an established capability for evaluating contractor performance are necessary for satisfactory contractor performance. In this chapter, approaches will be presented for achieving these objectives.

A. DEVELOPMENT OF A STATEMENT OF WORK

Generally the Statement of Work is divided into four major component groups: the essential requirements, the method of adequately expressing the quality assurance and test requirements, the technical data, and the management data to be delivered under the contract. Industry has alleged that work statements have become so complex that the contractor cannot fully comprehend all the requirements the Government desires. It should be noted that if the Statement of Work is not sufficiently definitive, some contractors may irresponsibly submit offers because of the uncertainty of the statement of the tasks involved, or, conversely, may not submit offers when they are fully qualified. They feel the work statement is too restrictive. [Ref. 21]

Failure to adequately describe the scope of the work will result in needless delays and extra administrative effort in the acquisition phase and less than satisfactory contractor performance.

The development of the Statement of Work must be a team effort with personnel from the functional area, the procurement office, and other disciplines, for example management engineering. The functional area chief, the team leader, must exercise authority and responsibility for the service that will be under contract. Functional people state the service to be delivered, measure the quality of the service, and accept the service. Assisting them is the procurement office which prepares the contract, enforces its provisions and provides necessary authority and technical experience in contracting to make the contract a workable document. The manpower and/or management engineering personnel perform cost studies.

The traditional method for defining requirements is to write a process-oriented Statement of Work. In essence, the Government translates existing methods or processes into a Statement of Work and the contractors are asked to provide a service based on this statement. The problem for the Government is to define and measure the quality of the contractor's effort. Another approach, initially suggested by the Air Force, is to design the Statement of Work based on a systematic analysis of the function to be performed.

This procedure, called job analysis, involves a step-by-step review of the requirements to arrive at a specific output of services with associated standards of performance. The contractor would integrate a system of people, facilities, material, and the Government Statement of Work, and then input these into a work process with the results being contract performance. [Ref. 22]

B. JOB ANALYSIS

Job analysis includes thorough analysis of each job's inputs, process and output functions. The steps in job analysis are organization, tree diagram, activity analysis, data gathering, performance values, governing directives, and deduct analysis. In the job analysis phase the services or output will become the basis for writing a Statement of Work, developing standards, defining performance indicators, and identifying acceptable quality levels of performance. Organizational information such as charts and job descriptions are used to identify services which are provided by various organizational components. The service or services required are linked together in a tree diagram and activity analysis is used to break the services into input, work, and output functions. Work analysis is performed to take each function of the tree diagram and break it into its most specific activity. After the services that will be provided under the contract are identified, then the workload and resource data

are gathered. This data provides the frequency which the output services are to be provided during the proposed contract period. This workload data can be given to the bidders to increase their understanding of the true requirements and for later construction of a surveillance plan. The required resource data will include the physical assets and personnel needed to perform the contract. Finally, performance values must be determined so that each service provided by the contractor has an acceptable quality level. Performance values can be obtained from historical records, managerial desires, or imposed quality levels associated with each output can be measured. If indicators are not prescribed, the analysis must decide, along with the customer or management, what indicators would aid in measuring the process. Indicators expressed in terms of time, distance, and cost are quite helpful. In any case, the performance should be quantifiable. Standards to which the performance indicators are measured must be familiar such as published requirements, manuals, technical orders, or regulations. [Ref. 23] Economic value analysis is performed on the various work elements to form a basis for reduction in the contractor's payments if the work is not done properly.

Any regulatory guidance pertaining to the service must be investigated. Most guidance is usually rather general at upper eschelons, and beomes detailed as it descends the

chain of command. A manager usually has numerous options as to the direction he proceeds. The underlying principle is to be able to understand the guidance.

C. WRITING THE STATEMENT OF WORK

Upon conclusion of the job analysis, the Statement of Work is written containing the requirements and the quality assurance survaillance plan which complements the requirements.

When writing the requirements part of the Statement of Work, it becomes necessary to identify the subject matter of the procurement in great detail. The Statement of Work must include descriptions, materials, dimensions, number of item services, overall workmanship of items serviced, and provisions for repair and maintenance over certain contractual periods of time. A proper balance between cost and quality must be specified. A large share of the requirements portion of the Statement of Work depends upon engineering and technical experience. Since the Government is responsible for writing the contract, the words written into the Statement of Work must be interpretable in exact ways. If it is necessary to use words in an abstract way, examples, illustrations, or definitions should be included to further amplify what is desired. Terminology should be consistent, with abbreviations and acronyms held to a minimum or fully explained. A successfully written Statement of Work reads well, is logical, and can effectively communicate its

intentions to the reader. Ambiguous terms include the following [Ref. 24]:

1. good workmanship
2. or equal
3. in accordance with the best commercial practice
4. good materials
5. as determinted by the contracting officer
6. skillfully fitted
7. high quality
8. reasonable
9. practically free
10. free from impurities.

D. QUALITY ASSURANCE SURVEILLANCE PLAN

A surveillance plan for service contracts is an organized, planned approach to quality assurance as opposed to a simple checklist method of surveillance. The surveillance plan's goal is to determine if the service provided by the contractor meets the quality standard. The four principle sources of information for surveillance include management information systems, random sampling, checklists, and formal customer complaints. The basis for a surveillance plan comes from two basic ideas, management by exception and performance indicators. Management by exception is the concern shown when services are not adequate. The inspector takes action only on problems. The Statement of Work contains performance

indicators by which the level of contractor-provided services can be monitored.

After determining what needs to be measured, inspection frequencies and methods must be determined. The frequency of inspections should consider the integrity and reliability of the contractor, the adequacy of the contractor's inspection system, previous Government experience with the contractor, and the criticality and frequency of the service. [Ref. 25] The frequency may be modified upward or downward on the contractor's performance.

There are four inspection approaches or surveillance plans that can be used to analyze contractor performance. A management information system is one inspection approach. Data is collected through an existing management information system for the contracted activities for a given time period. Reports are generated and the information compared to a contract standard. Based on this data, contractor performance is accepted or rejected.

Random sampling is another surveillance method. It is an attempt to determine the contractor's performance based on a sample of his services. The sample is selected at random so that it will be representative of the entire population. It is compared to the standard and conclusions are made about contractor performance for the whole group. MIL-STD-105D, Sampling Procedures and Tables for Inspection by Attributes, is the basis for random sampling.

When using the random sampling as an inspection approach, a sample plan must be developed. The plan must include the following information [Ref. 26]:

1. Acceptance Quality Level (AQL): The maximum percent of defects that can be accepted and still meet the contract standard for satisfactory performance,
2. Lot Size: the total number of units or services to be provided,
3. Sample Size: the number of units to be checked in a given time period,
4. Acceptance/Rejection Number: the numbers which indicate whether the lost is acceptable or unacceptable.

The AQL is taken from the Statement of Work. The lot size is determined by estimating how often the contractor will provide a service during the sample period. This estimate is usually based on historical data such as work orders. The sample size and acceptance/rejection numbers are determined by using MIL-STD-105D. To ensure that each service has an equal chance of being selected, a random number table is used to determine the sample.

A third inspection approach is the surveillance checklist. This surveillance plan must define the inspection methods and when they will be used. It also describes and categorizes activities checklists by time intervals. For example, types of services to be checked monthly will be grouped together. Surveillance activity checklists include the following information: contract requirement; method of surveillance; date accomplished; compliance.

Since no surveillance list will check all aspects of a contractor's performance, formal customer complaints should be utilized to decide whether to step up the level of inspections. A formal customer complaint program is another method of surveillance. A customer is asked to monitor a specific service and informed about the contractual arrangement. The user reports directly to the inspector regarding contractor performance. The manner of documenting complaints should be carefully planned by those people involved in checking the service contract. [Ref. 27]

A procedure for handling formal customer complaints should be established, and every organizational element should be briefed and given a copy of an operating customer complaint instruction. The instruction and briefing should include what action can be expected from those assigned to monitor the service contract. The record should contain at least the following information [Ref. 28]:

1. Date/time of complaint
2. Source of complaint--department and individual
3. Nature of complaint (narrative description)
4. Contract reference of complaint related services
5. Valid complaint (yes/no)
6. Date contractor informed of complaint
7. Action taken by contractor
8. Signature of the person receiving and validating the complaint.

Each performance requirement should be analyzed to determine which of the four approaches to use. The criticality and frequency of the service are deciding factors. For example, if it is an important service that occurs frequently, random sampling may be the best surveillance method.

The job analysis phase in the writing of the Statement of Work identified many performance indicators; however, not all indicators will be critical to the services being provided. The analyst must decide which performance indicators are critical and include them in the surveillance plan. Criteria to be used must include the criticality of the process and associated output service and adaptability of the performance indicators to overlap and check a variety of outputs. Part of the surveillance plan recaps the information in the form of a surveillance guide. The guide identifies the performance indicators, critical quality levels, monitoring methods, and frequencies of monitoring methods. The only thing remaining to do is the actual surveillance. This consists of taking the surveillance plan as written and using it. The random samples, if appropriate, are made, schedules of quality assurance made, and contractor discrepancies documented and corrective action taken.

This chapter has presented job analysis as a method for obtaining clear, complete, explicit statements of requirements with associated performance indicators. In job analysis,

the Statement of Work is designed based on a systematic analysis of the requirements to arrive at a specific output of services with associated standards.

The performance indicators identified in job analysis provide the quality assurance levels of contractor-provided services used in the establishment of a quality assurance surveillance plan. The quality assurance plan may contain a combination of four inspection approaches; management by exception, random sampling, surveillance checklist, and formal customer complaint.

Conclusions and recommendations reached during this research effort are presented in the next chapter.

V. CONCLUSIONS AND RECOMMENDATIONS

Shrinking manpower resources in the communications ratings and Government policy of reliance on the private sector for Government needed goods and services have made it necessary for the Navy to contract-out a significant portion of Naval Radio Transmitter Facilities and Naval Radio Receiver Facilities. Accomplishment of the communications functions by the utilization of the capabilities of private industry is completed through communications services contracts.

This research effort has focused on the problems of contract administration encountered by the contracting activities. This was accomplished by first reviewing the process through which the communications services contracts come into existence. In addition to a description of the document, the procedures for administering the contracts were presented. As a result of the reseach, some conclusions are now provided based on lessons learned in administering the contracts.

A. CONCLUSIONS

Thus far, the Navy's assessment of lessons learned indicates that the one source of less than desireable contractor performance may lie in the contract document written by the Government, including subsequent deficient monitoring procedures.

Management by exception has been utilized in addressing these problems. The results of the effort have been the drafting of more accurate and complete Statements of Work; the establishment of a Contract Technical Administrator position to assist in technical administration, monitoring of contractor performance, and quality assurance; and issuance of guidance on the administration and monitoring of certain problem areas in communications services contracting.

One lesson still to be learned is that management by exception is only one means of addressing the problems at hand. The researcher feels that management by exception in conjunction with a systematic assessment of the current methods of developing and writing service requirements and the administration of these contracts could better identify the real problems. Proper identification of the problems should result in the development of long term alternatives to alleviate the problem of less than desireable contractor performance due to factors which are controllable by the Navy.

Another lesson to be learned is that a properly written contract should detail in a clear, explicit, and complete manner all service requirements necessary for the contractor to undertake and complete the service. Also, the properly written document should contain a quality assurance plan.

The last point is that the preparation of a clear, complete Statement of Work is no easy task; it requires knowledge and skill on the part of the developers and drafters. In addition to communications technical expertise, the successful accomplishment of administration procedures at the field activity level is contingent upon the use of dedicated personnel trained in the areas of facilities maintenance and, in particular, services contract administrations.

As noted in Chapter III, the area of services contracting has suffered from insufficient guidance. If the Government is to successfully rely on the private sector for provision of needed services, then it must devote more attention to this area, particularly towards developing and providing more specific and complete guidance in services contracting to those activities involved in contracting-out services.

B. RECOMMENDATIONS

Recommendation 1: COMNAVTELCOM should adopt a systems approach in addressing the problems in communications services contracting in addition to its current element-oriented technique.

Recommendation 2: COMNAVTELCOM should develop a quality surveillance plan for these contracts and issue the plans to the field activities ensuring a standardization of surveillance techniques at the field activity level.

Recommendation 3: Field activities should ensure that all personnel involved in the monitoring of contractor performance are aware of their responsibilities and receive the proper formal training.

Recommendation 4: COMNAVTELCOM should develop a standardized list of communications work requirements using the approach discussed in Chapter IV to assist in the preparation of statements of work and quality surveillance plans.

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